

In The Claims:

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1.-34. (Cancelled).

35. (Currently Added). A ~~therapeutic composition for use in~~ method of treating human disc diseases ~~comprising a carrier in admixture with *in vitro* propagated human intervertebral disc cells, said disc cells being prepared by a method~~ comprising the steps of:

- a) providing a minced human intervertebral disc ~~cell~~tissue explant from the group consisting of ~~annulus disc cells, nucleus disc cells and mixtures thereof;~~
- b) culturing said minced human intervertebral cells ~~explant~~ under conditions to propagate and form a monolayer of human intervertebral disc cells;
- c) isolating the human intervertebral disc cells from said monolayer;
- d) seeding said isolated cells in ~~said~~ a carrier in the form of a hydrogel such that the isolated cells are dispersed and distributed in the carrier forming a three-dimensional structure;   
and
- e) culturing said dispersed and distributed cells in said three-dimensional structure; and
- f) implanting said three-dimensional structure into a target disc area needing treatment in a human patient.

36. (Cancelled).

37. (Previously Added) The therapeutic composition of Claim 35 wherein said carrier is a member of the group consisting of alginate, agarose, collagen, and mixtures thereof.

38. (Previously Added) The therapeutic composition of Claim 35 wherein at least a portion of said *in vitro* propagated human intervertebral disc cells have re-expressed extracellular matrix materials.

39. (Previously Added) A method of treating a diseased or injured invertebral disc having nucleus and annulus regions, comprising the steps of:  
obtaining live intervertebral human disc cells;

culturing said intervertebral disc cells under conditions to propagate disc tissue; and  
implanting said cultured disc tissue into a target disc area needing treatment in a human  
patient.

40. (Previously Added) The method according to Claim 39, wherein said live  
intervertebral disc cells are obtained from said human patient to be treated.

41. (Previously Added) The method according to Claim 39, wherein said  
intervertebral disc cells are minced to obtain an explant prior to culturing.

42. (Previously Added) The method according to Claim 39, wherein said cultured  
human intervertebral disc tissue is combined with a carrier material.

43. (Previously Added) The method according to Claim 42, wherein said carrier  
material is selected from the group consisting of alginate, agarose, collagen, collagen derivatives  
and mixtures thereof.

44. (Previously Added) The method according to Claim 41, wherein said explant is  
cultured in the presence of serum, growth factors or cytokines.

45. (Previously Added) The method according to Claim 41, wherein said explant is  
cultured in the presence of transforming growth factor beta (TGF- $\beta$ ).

46. (Previously Added) The method according to Claim 39, wherein said implanting  
step comprises:

debriding diseased or injured disc tissue in said patient; and  
then delivering said cultured human intervertebral disc cells into the area of  
debridement.

47. (Previously Added) The method of Claim 41, further including the steps of:
- (a) culturing said explant under conditions to propagate a monolayer of human intervertebral disc tissue, wherein said disc tissue can be isolated and further propagated upon passaging;
  - (b) isolating said human intervertebral disc tissue from said monolayer;
  - (c) distributing said isolated disc tissue in a carrier material such that said isolated disc tissue forms a three-dimensional structure; and
  - (d) culturing said distributed tissue in said three-dimensional structure.
48. (Previously Added) The method according to Claim 47, wherein said live intervertebral disc cells are obtained from said human patient to be treated.
49. (Previously Added) The method according to Claim 47, wherein said cultured human intervertebral disc tissue is combined with a carrier material.
50. (Previously Added) The method according to Claim 49, wherein said carrier material is selected from the group consisting of alginate, agarose, collagen, collagen derivatives and mixtures thereof.
51. (Previously Added) The method according to Claim 47, wherein said explant is cultured in the presence of serum, growth factors or cytokines.
52. (Previously Added) A method of preparing cultured intervertebral disc tissue, comprising the steps of:
- obtaining live intervertebral disc cells;
  - culturing said intervertebral disc cells under conditions to propagate disc tissue ;
  - and
  - keeping said cultured disc tissue viable until use.

53. (Previously Added) A cultured disc tissue for use in treating human disc diseases or injuries prepared according to the steps of:

obtaining live intervertebral disc cells;  
culturing said live intervertebral disc cells under conditions to propagate disc tissue; and  
keeping said cultured disc tissue viable until use.

54. (Previously Added) The cultured disc tissue according to Claim 53, wherein said live intervertebral disc cells are minced to obtain an explant prior to culturing.

55. (Previously Added) The cultured disc tissue according to Claim 53, wherein said tissue is cultured in the presence of serum, growth factors or cytokines.

56. (Previously Added) The cultured disc tissue according to Claim 53, wherein said tissue is cultured in the presence of transforming growth factor beta (TGF- $\beta$ ).

E 57. (Previously Added) The cultured disc tissue according to Claim 53, wherein said tissue is combined with a carrier material.

58. (Previously Added) The cultured disc tissue according to Claim 54, wherein said carrier material is selected from the group consisting of alginate, agarose, collagen, and derivatives and mixtures thereof.

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